File

Toronto Office

The Province of Alberta

IN THE MATTER OF "THE NATURAL GAS UTILITIES ACT"

—and—

IN THE MATTER OF an Enquiry into Scheme to be adopted for Gathering, Processing and Transmission of Natural Gas in Turner Valley

G. M. BLACKSTOCK, Esq., K.C., *Chairman*

Dr. E. H. BOOMER, F.C.I.C., *Commissioner*

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W I T N E S S E S

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October 2nd, 1945.
A.M. Session.

VOLUME 44

Q BY MR. FENERTY: I think I have carried out one suggestion that will shorten it a good deal more than the time we took yesterday. Now Mr. Stevens-Guille, I just have a few more questions. You told me yesterday of Royalite drilling wells for gas in the gas cap.

A Yes sir.

Q I understand that most of those wells, from them a large amount of naphtha was recovered also.

A That is correct.

Q We hear talk on the street about Number 4 being a million dollar well and that had reference to the amount of naphtha recovered.

A I think it was referred to as a million barrel well wasn't it?

Q A million barrel well, yes.

A Yes.

Q And that clearly was not referring to gas, the million barrels?

A No, that is referring to the naphtha.

Q How many wells did the Royalite Company drill in the gas cap to the limestone, do you remember, approximately?

A 25 as Royalite wells.

Q 25 that the Royalite drilled or does that include the earlier wells?

A 27.

Q 27 and then . . . . .

A Royalite 28 was a crude oil well.

Q About what was the number of wells drilled, the total number of wells drilled to the limestone in the gas cap area, do you know?

A I cannot tell you offhand.

Q My information is something over 100.

A Something of that order, yes. It is on the Conservation Board's records as already turned in.

Q Would it be fair to say that those additional 80-odd wells were drilled for the purpose of securing naphtha?

A I think undoubtedly that was one of the main objects if not the object.

Q Shall we put it this way, at the time that they were drilled that was the only object and the only hope that they had.

A Well I cannot say that was what was in their minds but undoubtedly they were drilling in part at any rate for naphtha.

Q Now in connection with the design of an absorption plant you also suggested if you did not have the peak load problem you could design an absorption plant that would cost much less money and more suitable for the operation, is that what you meant?

A If you were designing one at all. I did not say we would necessarily design one for that operation.

Q Would you place your Number 2 plant in that category of absorption plants?

A Well the Number 2 absorption plant does not exist.

Q No but when it did exist it was designed - even if it does not exist it was designed and installed.

A But for what purpose?

Q Would you place it in the category of these plants that you would design if you did not have the peak load requirements?

A It was originally designed without any idea of a peak load.

Q But would you place it in the category of that kind of plant you would design if you did not have a peak load requirement?

A Yes it was designed without any idea of peak load requirement.

Q And it was designed without any reference to dry gas?

A To the sale of dry gas.

Q I say it was designed without reference to the marketing of dry gas?

A Yes, it was designed without reference to the marketing of dry gas.

Q In other words, it was a gasoline operation first, last and all the time.

A It was.

Q Designed and installed for that purpose.

A It was.

Q Now if you are designing an absorption plant for Turner Valley to take the peak load situation in that you have been talking about, how would you provide for the diminishing throughput as the wells decline?

A That would be taken into account at the time you were designing it to decide on what the original size of the plant should be.

Q I see. You would design a plant that was something less than capacity at the time of designing.

A That is normally the way to do it.

Q Beg pardon?

A That is normally the way to do it.

Q That would be the normal way to do it?

A That is correct.

Q I see. I think you made some reference to it yesterday and I understand it is so that the natural gas from the Turner Valley wells, the history is that as operations continued the natural gasoline content increased.

A That is correct. That is to say if you are referring to the natural gasoline content of the gas leaving the separators.

Q The gas from the separators, yes.

A There is a distinction there.

Q As a matter of fact it does not follow that the gasoline content at the well-head and before passing through the separators had changed does it?

A Not if you are including naphtha into gasoline.

Q The situation is that at some periods prior to the introduction of the absorption plant that the gasoline content, or a substantial part of it, was being captured in the separators was it not?

A A portion was being captured in the separators but it was not being captured in the sense that it was delivered anywhere. It was lost in the tankage afterwards.

Q Some of these wild elements would be lost anyway.

A That is correct.

Q And that is really where your gasoline plant came in when the gasoline content had increased to a point where a substantial part was not being captured as I said in the separators.

A Yes I think you could put it that way. The point really is better put I think the other way that when the content of the natural gasoline in the gas was sufficient to become either a problem or an economic proposition.

Q Now Mr. Stevens-Guille, I take it that it is possible to control the peak load of gas that comes to your absorption plant by well-head control.

A I do not understand what you mean.

Q I say you can control the flow of gasoline, or of gas, to

your separator by control at the well. That is being done is it not?

A That is being done every day.

Q And the problem is then not entirely an absorption problem but a production of oil problem, is it not?

A No, I do not see how that comes into your point at all, your peak load.

Q You see what I mean. You can operate your gasoline plant in such a way, it may not be fully efficient and it may not give you the same ultimate quantity.

MR. BLANCHARD: I am sorry, I cannot hear.

Q MR. FENERTY: You could, by control at your wells, operate your gasoline plant so that there will be no waste of gas and no need to repressure. You can operate a gasoline plant so that there would be no flare and no repressuring if the product was controlled at the well-head couldn't you?

A Well I do not follow how you are bringing that into peak loads, your original question.

Q Forget peak loads. I am just asking now that we do not necessarily have to repressure your gas or flare the gas to operate a gasoline plant do we?

A Oh no.

Q If the production was controlled at the well-head, you could still operate your gasoline plant without the necessity of repressuring any gas or flaring any gas, that is right is it not?

A Oh yes. But that is not connected with the question you are explaining to me about peak loads.

Q No, I have jumped to another thing now. I do not pursue a thing indefinitely. At least I hope not.

A Well I did not understand your question and I did not answer it.

Q I am away from that and I am almost through. To get back or to get down to the basis of your problem of repressuring or flaring, that is linked up with the production of crude oil?

A Yes.

Q That is where it comes. It would be linked up with your production of natural gasoline if you were operating your gas cap wells but you only use those now for the purpose of taking up peak load requirements.

A That is correct.

Q And to cut away all things in between, your whole problem of dealing with this residue gas, which is waste gas, I say, as far as the absorption plant is concerned, is a crude oil well operation and at a time when there is no market for the dry residue gas.

A Yes.

Q That is your whole problem, yes. Now is it a fact that today every absorption plant in Turner Valley has an excess capacity due to the decline in the production of wells?

A Well Mr. Fenerty I am not in a position to answer that.

Q I did not know whether you knew.

A I just have knowledge of one gasoline plant.

Q You may suspect it but you have not got the exact data?

A I do not necessarily suspect it. I have not any reason to do so with the present product that they are making, that they have any excess capacity.

Q Let us put it this way, before the installation of additional gathering lines within the last several years and as a

result of the present policy with relation to the operation at Turner Valley of the Government, is it a fact that every absorption plant had excess capacity.

A You are speaking now of what date, to be quite clear, because I am not certain.

Q Well let us say 1942.

A Before the production of iso-butane?

Q Before what?

A Before the plants started to produce iso-butane?

Q Now you know about Turner Valley and I do not. Can you pick out a date when every plant had excess capacity?

A After conservation came in for a period they might have done.

Q And that was due . . . . .

A I know that of the plant that I have direct knowledge of. Royalite Plant Number 2 did have. Whether the other two did for certain I cannot make a statement.

Q And is it a fact at that date where there was excess capacity that only your Number 1 plant had anything to do with the marketing of dry gas?

A That is correct.

Q My information is, Mr. Stevens-Guille, that in the more Northern parts of Turner Valley oil wells have to hold a pressure of over 300 pounds on the separator in order to force their gas downstream from the separator into the gathering lines, is that correct?

A Over 300 pounds?

Q Yes or in that neighbourhood.

A It is a little below 300 now.

Q What is that?

A It is a little below 300 pounds now.

Q And that some of those wells are unable to operate as efficiently as oil wells with that pressure on the separator.

A I do not know of any instances.

Q Put it this way, is it a fact that some of those wells in the North end of the field that are flaring gas because they cannot carry on their operations efficiently as an oil well and still put gas in the lines?

A I am not sure I understand your question. By efficiently what do you mean, Sir? Do you mean they are not making their Brown allowables?

Q They do not put gas in the lines because the pressure required to put it in the lines interferes with their oil operations. We will not split hairs . . . . . .

A If I understand your question rightly there are some wells in the North end whose operating pressures are insufficient to deliver gas into the lines at this pressure we have mentioned, a little below 300 pounds.

Q And they continue to operate as oil wells?

A Oh definitely.

Q And they flare gas?

A Definitely.

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Q Will you tell me whether or not this statement is correct, - so far as you know no well in Turner Valley which was drilled into the limestone is drilled for the purpose of getting gas, just gas as distinguished from being drilled for the purpose of getting oil?

A Solely for the purpose of getting gas?

Q Will you repeat the question?

REPORTER READING: "Q. So far as you know no well in Turner Valley which was drilled into the limestone is drilled for the purposes of getting gas, just gas as distinguished from being drilled for the purpose of getting oil?"

Q MR. FENERTY: Yes?

A No, I cannot say that I know of any case where that was probably done.

Q And every well drilled in Turner Valley into the limestone so far as you know was drilled for the primary purpose of getting oil?

A Yes.

Q Yes. Now is it a fact that no well in Turner Valley has ever been abandoned either because it flared its residue gas, had to flare it, because it had no market for its residue gas?

A I do not think I can answer that question definitely as you put it because I think there may have been border line cases where they had a market for their gas which might not have been possibly abandoned.

Q Do you know of any that were abandoned?

A I do not know of any individual company's operations, or the economics of the company.

Q Do you know of any well which was ever abandoned due to the fact that it had no market for its gas, where it would have

continued?

A Well I have just told you, Mr. Fenerty, I cannot make a definite statement of that, because it depends on factors with which I am not familiar.

Q All right. Now the next one is this, is it a fact that no well in Turner Valley has ever continued in operation without obtaining some return from either crude oil or gasoline, the contents of its gas?

A Will you repeat that question?

MR. FENERTY: Will you read the question please?

REPORTER READING: "Q. All right. Now the next one is this, is it a fact that no well in Turner Valley has ever continued in operation without obtaining some return from either crude oil or gasoline, the contents of its gas?"

A I think that is correct.

Q Is it a fact that wells have been abandoned in Turner Valley where it was still possible to get some gas from them?

A Oh yes, that is correct.

Q Yes, and with that in mind would it be fair to go back to your first proposition of the position of the Royalite Company in the early stages and say that it is the position of every operator that they are in there as oil operators, getting oil from their gasoline operations and that some are lucky enough to get a market for their waste products, and some were not, is that a fair statement?

A No, I do not think it is, because as I said yesterday.....

Q You just will not come to that?

A Well I cannot conceive it to be true.

MR. FENERTY: All right, that is all then.

THE CHAIRMAN: Mr. Steer?

.....

CROSS-EXAMINATION BY MR. STEER.

Q I would like to get a statement of your estimate of the amount of gas-saving by reason of the installation of these facilities, has that been prepared?

A That was away back last March.

Q No, but it was a long way back?

A Yes. I am sorry to say I did not bring it, we prepared one, but I had forgotten you had asked for it.

Q You are not able to recall approximately what the quantity was, or could you?

A I think it was in the order of 10 billion but I would not like to go on record without checking it because five months or six months have passed since those figures were prepared and I have not looked at them since.

Q You will, however, give us that figure?

A Oh certainly.

Q DR. BOOMER: Will you bring that up to date?

A Well this was to be, as I understood it, Dr. Boomer, an estimate of the reserves that were made available by going to the North end.

Q The operating experiences since March would have no effect upon those figures?

A Well we would review it to see if there is any reason to alter our figures.

Q MR. STEER: Yes. You are confining your statement to the North end, do I understand?

A That is what I understood you to ask for.

Q I see. You have, I think, given in your statement M-2-Revised, which is Exhibit 47 here, an estimate of the amount in your opinion added by reason of the construction of the facilities in

the South end?

A That would be included in there, yes.

Q In your M-2-Revised, which is Exhibit 47, I think you say that some 64 billion was added from the B.A. area and some 26 billion was added from the G.O.P. area?

A I think those figures are approximately right, but to tell you the truth I have not M-2-Revised here.

Q Here it is, and you might check those figures.

(Exhibit here handed to the witness).

A To which pages do you refer?

Q Table 6 and Table 7 of M-2-Revised.

MR. BLANCHARD: That is on the wet basis?

MR. STEER: I am not sure.

WITNESS: No, I think Mr. Steer was referring to Column 15 of Table 6 of M-2-Revised, which is headed "Total Residue Gas Available for Market in M.S.F. per Year", and the total of that column from 1944 to 1974 was 64,923,000,000.

Q Is that residue gas.?

A That is the total residue gas available for market.

Q Available for market, and that would be dry?

A Dry gas.

Q MR. HARVIE: What column is that?

A Table 6, Column 15.

Q MR. STEER: Then on Table 7 you have a figure for the G.O.P. area and it is 26.1 billion dry?

A That is correct, that is in Table 7, Column 13.

Q Yes, and that is a total of 90.1 billion from those two areas and Mr. Donellan in the box the other day gave us his company's estimate of the total as 50 billion, you remember that?

A Yes, I believe he did say that.

Q Are you able to reconcile those figures or do they require reconciliation? It seems to me that they do?

A Was Mr.Donellan dealing for the same period of time as we have dealt with here in Report M-2-Revised, was there not some difference of opinion as to how long the operations would be carried on and was not Mr.Donellan's total dealing with the total life, which would bring this figure down.

Q Are you not, in your 90 billion giving us your estimate as to what is going to be marketed from that South area?

A I think it would be best, Mr. Steer, if I just re-read what is stated in there with regard to the point.

MR. HARVIE: When you refer to the "South area" is it B.A. or G.O.P.?

MR. STEER: I think Mr.Donellan was referring to the B.A. area and the reconciliation would possibly be on that.

Q On Page 7 of the same report, no, on page 10, it gives the point I want to make briefly:

> "If the British American plant is shut down before 1974, other arrangements would have to be made to deliver the gas to the market, or the economic marketable reserve figure as estimated in this report would have to be adjusted accordingly."

I think that reconciliation would cover it.

Q Now then you are familiar with that statement,Exhibit 114, which was filed the other day?

A Which was that?

Q That is the B.A.'s estimate of gas, at least actual figures of throughput of seven months ending July 31st, 1945, I

wonder if you would get a copy of that?

(Copy of Exhibit 114 handed to witness).

A When you ask me whether I am familiar with it, Mr. Steer, I just glanced at them. I have not given them any study.

Q Let us talk if you will in regard to the "gas from wells, 3,746.589"?

A Yes.

Q And by adding the differences and the wet gas, you have a figure of 3,763,985?

A Yes.

Q Which would appear to be, I suppose, the total gas produced from the area, is that it?

A Well one moment there, Mr. Steer, I do not think the total produced from the area, I do not think that is what it is, it is more likely to be the total processed in the gasoline plant. It is headed "Gas Volumes and Throughput".

Q I am told that the report to the Conservation Board from the wells in that area for the seven months' period shows 4,358,449 m.c.f.?

A Well that may be so, Sir, I do not know.

Q You would not be surprised if that were so?

A Oh no, it would obviously be some larger figure than this if I was right in my remark just now, that this is the volume processed at the plant because there is some gas being flared.

Q Quite so. Then if we take that figure of 3,763,985 and assume the correctness of the four million odd figure, there is the quantity of the difference between those two figures or 594,464 MCFs produced, that does not go through any plant?

A Yes.

Q Well then again looking at Exhibit 144, in order to estimate

the percentage of gas produced that was actually marketable, we deduct in the first place from the total production the five hundred and ninety-four thousand odd; then in the second place you deduct "Operations Shrinkage" as shown on the statement of 276,792 MCFs?

A Yes.

Q Now that has been reduced to a percentage of the gas processed showing 7.4%?

A Yes.

Q And if we take it as a percentage of the quantities which were actually produced at the four million line, I am told that that amounts to about 6.35%?

A That would seem probably correct.

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Q Then going on to operations fuel, we have got to add that 139,399, that is .2% of the total ?

A Yes sir.

Q And then for the compressor stations fuel 133,684, that is 3.07% of the total ?

A Yes.

Q And sales of drilling gas 223,422, that is .12% of the total ?

A Yes.

Q And then delivery of drilling gas to the well operators 19,929 and that is 4.6% of the total ?

A That would be going up rather than coming down. It should be a smaller figure than the .4 figure.

Q The computation was given to me as 4.6.

MR. HARVIE: 3.6 would be nearer to it.

A It may have been rounded off in the first place.

Q MR. STEER: It is an insignificant figure anyway.

A Oh yes, I am quite willing to take it.

Q Flared at the absorption plant 189,971 and the figure given to me is 4.36% ?

A In place of 5%.

Q Oh I see, you are comparing with the point four in the other statement. We will forget about that. In place of the flared at the absorption plant ?

A That is the last item in this tabulation is it ?

Q Yes, in place of 5 ?

A Yes.

Q And then we have got scrubbing plant shrinkage 65,405, 1.57% ?

A Yes.

Q So that when the gas comes from the ground it is reduced by all those deductions that we have spoken of, totalling some 37.6% ?

A Yes.

Q Then from the statement we have got a quantity paid for of 1,845,594 ?

A Yes.

Q That is 42.30% of the total produced. Would that be right ?

A It would look about right.

Q Then we have got repressured gas of 872,933, or 20% of the total produced ?

A Yes.

Q That must be pretty close because it totals 99.6%. We have a figure of 872,933 m.c.f. repressured. Are you in a position to give us an estimate of what percentage of that repressured gas is going to come back out of the ground ?

A No I think that is certainly beyond my competency.

Q I do not suppose anybody can tell us ?

A Not with any assurance.

Q Has the scheme ever been so tried out anywhere that people are able to estimate whether you are going to get 50%, 80%, 100% of the gas back out of the ground that you have repressured ?

A I do not know of any repressure scheme offhand that has run its full life, but there are records of schemes in which gas is being put in for periods and then withdrawn during other times of the year. For example on peak load operation, but I have not any first-hand knowledge of it.

Q Would you say that the likelihood is that you would get 100% or 75% or 50% ?

A You are now talking about in the B. A. area or just talking about schemes generally ?

Q If you will confine it to the B. A. for the moment, then I would like to take you to the other areas.

A I do not know that I have made a study of the B. A. area or that I would care to make an estimate like that.

Q What about your gas cap area ?

A There would be some lost naturally but it is the general opinion that a substantial volume will be recovered.

Q By a substantial volume what you mean is a loss of 20%, 25% ?

A No, I would say a loss possibly of the order of possibly 5 to 10%.

Q I see. Now you say you have not made a study of the B. A. area but you think 5 to 10% would cover the loss in the gas cap area ?

A Yes.

Q Does that involve the theory that the north end of the gas cap area is separated from the south end. What I want to know is whether this is a common reservoir, if there is one ?

A You are getting in a rather difficult problem to answer Mr. Steer. It is a common reservoir in the sense that it is a continuous producing formation from one end to the other, but whether it is a common reservoir that there is a free movement of gas like inside of an empty cylinder we will say, is of course quite a different thing.

Q What I have in mind is that so far as the gas cap is concerned, your answer of 5 to 10%, so far as the facts are known, would be equally applicable to the south end as to the north end ?

A Not necessarily. Let me refer you to the evidence that Mr. Connell gave on that. You may remember he produced curves for the north end showing that there had been relatively little migration from the crude oil area to the gas cap area at the point in which this gas is being injected, this repressured

gas, and he based his answer to somewhat the same question on those curves and the information they gave.

Q Then that involves the theory that there is some sort of, shall I call it a partition, between the south end and the north end of the gas cap area ?

A Oh undoubtedly pools in the formation itself slow down movement.

Q Which ?

A The pools in the formation in the limestone; you have not got free movement. Not necessarily. There are areas where the porosity is very slow and the movement is certainly not free movement. It may be slow movement for a period of time which would be a number of years.

Q Yes, well then would it be a safe assumption to say that over the whole gas cap area north and south that we could use a figure of 10% loss in recovery ?

A Well I said, Mr. Steer, I have not studied that problem, the south end. I would not want to commit myself without a study of it.

Q All right.

A The north end I am naturally familiar with because I had some connection with the selection of wells in the area in which it was put.

Q I find it a little difficult to understand. It is probably my stupidity. Why there should be any difference between the north end and the south because your north end gas cap area is a very large area is it not ?

A Oh yes.

Q What I suggest to you is that there are the same kinds of partitions or the same kind of tight formations existing all

through that north end as may exist to mark off the south end from the north. In other words instead of having one reservoir you have got perhaps a dozen reservoirs. Marked off from one another by tight formations ?

A Well I think that is true. It varies all over the field. You have got crude oil wells with prolific production quite close to crude oil wells with practically no production.

Q Yes, that being so I do not know how you can say that the greater part of the gas that is put in is going to come out ?

A Perhaps Mr. Steer there is a point there that I should make. I do not necessarily mean out of the wells into which it was put.

Undoubtedly some of it will migrate certain distances, but it then can be produced out of another well. It is not going to dissipate underground.

Q What do you say as a scientist as to the possibility of getting any reasonable estimate of the percentage of gas that is repressured and that can be recovered ?

A Well I think Mr. Steer the answer is going to be the same answer as drilling for oil. That you can never be sure until the well has been drilled. You won't be sure until the time comes and the gas is taken out.

Q Let us just for the sake of my example, because it is the figure I have used and I realize you have not at all agreed to this figure of 20%, let us assume that 20% of that repressured gas is not going to be recovered so that of the total produced that means we are going to have 16% loss on that account ?

A I have not followed you over from the 20% to the 16%.

Q Maybe not, I think I followed. We will assume that 20% of the gas is lost. Excuse me just a minute. That means 80% of the original quantity of gas is recoverable ?

A Yes.

Q Starting again. 20% of the recovered gas is repressured. 20% of the gas that is produced ?

A Of the gas that is produced, yes.

Q Is repressured ?

A Yes.

Q We will say 20% of that is lost ?

A Yes.

Q That means that 16% of the original gas produced is lost ?

A No.

Q Is recovered, is that right ?

A Yes.

Q You do follow me ?

A I follow it now, yes.

Q So that of the repressured gas only 64% reaches the market ?

A No you have lost me again there, sir.

Q They told me these figures were all right on Sunday night ?

A Well I am not suggesting they are not right, but I am not just able to follow them as quickly as this.

Q I am sorry. I am going to ask you to assume that 80% of the gas that goes into the ground is recovered ?

A Yes.

Q And I am just saying this, that from that 80% which is recovered, when we are figuring how much is going to go to market we have got to make similar deductions to those which we made a moment ago with respect to the original gas ?

A Some of them Mr. Steer, but not all of them.

Q Certainly not all. Now look at those for a moment and let us see. Operation shrinkage. What do you say about that ?

A Well that will depend of course on the wetness of the gas when

it returns which is another of these probabilities.

Q We will assume for the moment that that dry gas is going to absorb some naphtha content ?

A Right.

Q And so we will apply the 6.35. Then I suggest we have to apply the operations fuel, absorption fuel, compressor station fuel ?

A Yes.

Q And then flared at the absorption plant down below there, 4.36.

A I doubt whether you have to apply that. The equipment will probably be more than ample to handle everything by then.

Q Well what you would say then is perhaps you and I won't agree on all the deductions that have to be made but I just ask you to make another assumption and that is that 20% is to be taken off the 80% by reason of these deductions we have spoken of ?

A Yes.

Q And that is where I get my 16% taking the 20% and the 80% ?

A The 16% being back on the original volume.

Q Yes.

DR. BOOMER: Don't you think you should take out the sales of drilling gas ?

A I certainly think they should but Mr. Steer's suggestion was to accept 20%.

MR. STEER: Well say drilling gas. The actual figures do not perhaps make any difference but I am asking you to assume 20% deduction.

A Right.

Q And that leaves us 16% taken away from the 80% recovered from the ground. We have got now 64% of the gas recovered from the

ground which reaches market.

A Yes.

Q That will do it. Now the original repressured gas is 20% of the total ?

A Yes.

Q And 64% of that 20% of total is going to reach the market ?

A Yes according to your assumption.

Q That is 12.8% of the original quantity ?

A That would sound right.

Q And if that is added to the 42.3% we get above you have got around 55% of the original quantity that is going to reach market ?

A That would be about right.

Q I am very sorry I overlooked that step in there and made this all so much more complicated. Now then the original quantity produced is 4,358,000 odd m.c.f. and applying our 55% figure to that we get approximately 2,400,000 m.c.f.

A Yes.

Q And that is for a seven months period ?

A Yes.

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Q And that is for a seven months' period?

A Yes.

Q And multiply that by 12/7ths for the year 1945, ignoring the declining production, we will ignore for the purposes of this example the productions, which decline from month to month throughout the year, don't they?

A Yes.

Q Ignoring that, and multiply your two million odd by the 12/7ths and you get 4,100,000 M.C.F. production for the year 1945?

A Yes.

Q Yes.

MR. CHAMBERS: What was that figure, Mr. Steer?

MR. STEER: 4,100,000 MCF.

A That would not be quite correct, because for some of these seven months they do not produce gas cap wells, so that your proportional figure is not strictly correct.

Q That would be something less than 4,100,000?

A It might be something more.

Q Might be something more?

A Yes.

Q How much more?

A I could not say offhand because I have not followed it how long they have now produced the wells.

Q Now, you have your M-2-Revised in front of you there?

A Yes.

Q That is Exhibit 47. If you will look at Table 6. You have got for 1945 an estimated production from that B.A. area of 5,230,000?

A That is correct. That is again in that column 15.

Q Would that fact that you speak of, that the 12/7ths factor is

not a proper factor to use, would that account for the difference between that actual experience and the estimate of 5,230,000?

A It would be in the right direction, but I would not think that it would have the full effect.

Q Now, I wonder if you will follow me with regard to the G.O.P. area. My instructions are that the Conservation Board's figures as to the production for the seven months give a figure of 2, 412,180?

A Would you give me that figure again?

Q 2,412,180?

A That is the total wet gas produced by the wells connected to the G.O.P., is that correct?

Q Yes, from the same Conservation Board's figures. And from the same Conservation reports there were delivered to the plant 2,117,796?

A Right.

Q Making a difference not accounted for of 294,384?

A Right.

Q Or 12.2%?

A Right.

Q Then according to the Conservation reports there was delivered to Madison 960,739?

A Yes.

Q And for compressor plant fuel, scrubbing plant fuel and shrinkage, 49,958?

A Yes.

Q That would leave a quantity going to market for the seven months of 910,781, the difference between those two?

A Not necessarily, Mr.Steer.

Q Why?

A Because that might have been at times beyond the capacity of the compressors and therefore some of that might have been flared, if I follow your figure.

Q Is there a likelihood of that?

A Yes, there is a definite likelihood that some of that gas might have been flared.

Q So that the quantity going to market would be less or greater than the nine hundred and ten?

A It would be less if some was flared.

Q Well, assume that none was flared, that would give you a figure of 910,781 or 37.7% of the production?

A Right.

Q Now then, if you multiply that by 12/7ths, the yearly market should be 1,561,332?

A Yes. But I say again your 12/7ths is not a correct factor to apply.

Q There is some error in there?

A Because you have not got seven months' full total there.

Q Then if we take Exhibit 47 again, Table 7, you have not an estimate for the year of 2,611,000?

A That is right. In Column 13.

Q That is a very considerable differenceisn't it?

A Well I do not think it will be so very large if there had been a normal year's operation, which, of course, is what those figures or this figure in M-2-Revised is based on. M-2-Revised was made up quite a number of months ago on that assumption.

Q Now, does your criticism of the 12/7ths factor depend upon the temperature of the various months that are being considered?

A Oh no, nothing to do with that at all. The operation of the

residue gas compressor, boosting the G.O.P. to the Madison scrubbing plant, boosting the G.O.P. gas to the Madison scrubbing plant only started in January, and was not on continuous full load for a month or it might have been more.

Q I see?

Q DR. BOOMER: It was late in January?

A It was late in January it started in the first place.

Q MR. STEER: So that in your.....

A I think about January 23rd it started, and then for a large portion, if not the whole, of February, it was only partially loaded.

Q I see?

A So that your factor of 12/7ths is susceptible to quite a large error.

Q I see. And there is no way in which we can arrive at what the proper factor is?

A Oh yes, we can go and calculate that for you. I can give you the actual volume that has been pumped, if that is what you want. I have not got it with me. It is in the Conservation Board's records I imagine, isn't it, Dr. Boomer?

DR. BOOMER: Yes.

A But I can produce it.

Q MR. STEER: If it is available to the Board from the Conservation records there is no use of our getting it here.

A It is on the Madison's books and accounted for each month so that we can produce it at any time.

DR. BOOMER: I can supply you with the daily records from the first day that the plant started, Mr. Steer.

MR. STEER: Oh, then if you do not mind, Mr.

Stevens-Guille, I will ask you if you will correct my 12/7ths and give us those computations, will you?

A Yes, surely.

Q Would this be true, that quantities of gas used as plant fuel, scrubbing plant fuel, compressor plant fuel, and lease fuels remain constant in amount?

A From month to month or in a month?

Q From year to year?

A Well, some of those factors, of course, vary with the load almost directly, and others do not vary directly with the load.

Q Which ones would vary with the load, plant fuel?

A As long as there is not too much a variation in the load, yes, approximately.

Q Scrubbing plant fuel?

A There again approximately.

Q These are not continuous operations?

A Well, scrubbing plant fuel, you see, goes up and down with the load on the scrubbing plant. For example, I mean, today when we are scrubbing perhaps 40 million it is going to be considerably less than two months from now when we are scrubbing 65 or 70million, and that is all taken into account in these figures, and those figures less scrubbing plant shrinkage and fuel on Exhibit 114, page 2, is the actual figure that no doubt the B.A.obtained from our accounting with them. Would not that be correct, Mr. Harvie?

MR.HARVIE: Yes, I think so.

Q MR.STEER: Then what you say is that the compressor plant fuel varies with the load?

A Yes, approximately.

Q And lease fuel?

A No, that is one that does not vary so directly.

Q That is the only one of the ones I have mentioned?

A In winter it is higher than in the summer.

Q That lease fuel is the only one?

A That would be the main one, yes. You have also got to remember they have got an item in here for drilling gas, and that item varies, of course, quite independently of load. It depends how many wells are buying gas.

Q Would you be able to give us the number of wells that were connected up to your scrubbing plant prior to 1933?

A Well I have not got access to the records. That is a Royalite record.

Q THE CHAIRMAN: I suppose you could get it without much difficulty, Mr. Stevens-Guille?

A Well I would not be sure that I could find the exact numbers, because of the difficulty of finding that precisely, but I can possibly find an estimate of it.

Q What I meant was that the Royalite would not prevent you from getting the figures if they are available?

A I would not know that.

MR. CHAMBERS: If the information is available, certainly.

Q MR. STEER: I think it might be helpful, Mr. Stevens-Guille, and I am not going to go over again the ground that my learned friend, Mr. Fenerty, covered, but I think it might be helpful if we had a statement of the number of wells that were connected up to the scrubbing plant before 1933?

A Yes.

Q And the number of wells that were connected up with the absorption

plant when it was built in 1933?

A Yes.

Q And the number of wells that were connected to the absorption plant between 1933 and 1936?

A Yes.

Q And the number of wells that were connected to the absorption plant subsequent to 1936?

A Well up to what date, the present date?

Q Up to the present date, yes.

A Yes.

Q You said something in your direct examination which seemed to me to cover the situation quite adequately, that the producers of oil and natural gasoline in this area have got the good fortune of having acquired a market for their residue gas?

A I think my actual wording was that somebody might think that the Royalite had the good fortune to have a market for its gas.

Q I see?

A That was the thought in my mind.

Q You are not suggesting for a moment that Royalite wells 1,2 and 3, the original Dingman wells, were drilled for anything but oil are you?

A Well, I said I think, Mr. Steer, that I did not know what was in the people's minds actually, in view of the fact that there was a market for gas in this area at that time, it seemed conceivable to me that anybody drilling for oil and knowing that he would get gas with it, would hope to be able to use the gas.

Q Yes, he would hope to do it. But you realize that it was not until the Public Utilities Board made an order in 1921

that any effort whatever was made to rescue the gas from those wells?

A To do which to the gas?

Q To rescue the gas that was produced at those Royalite 1, 2 and 3 wells?

A That is not quite correct, Mr.Steer, because those wells were shut in in 1921 up to the time that that order was made, and the lines laid and the compressors installed.

Q I see?

A They were not produced.

(Go to page 3404).

Q Oh I see. Well was that due to the fact that the extraction plant had burned down?

A No. Even after the new plant had been built, as I stated yesterday, these wells were shut in and were not produced through the plant for the gasoline extraction with the residue gas flared. The fuel was used locally but there was no operation down there of a unit gasoline plant nature with the residue gas not required for fuel being burned.

Q Well now am I to understand that prior to the destruction of the extraction plant by fire, that these wells, Royalite 1, 2 and 3, were not operated for the purpose of obtaining natural gasoline?

A Oh no, no, but they were operated then, not by Royalite. They were operated by the Calgary Petroleum Products.

Q Do you say . . . . .

A My point was that after Royalite came in the field in 1921 and built its new absorption plant, it did not just rebuild the old one, it built a new one . . . . .

Q Yes.

A Then it did not run as a gasoline plant operation.

Q If it is true that before Royalite acquired these wells the wells were operated and produced through the extraction plant and the gas was flared, was that the way it was being operated?

A That is what I understand was happening.

Q Yes, and it is a reasonable inference that what they were after was what they were getting out of the extraction plant and any gas to supply Calgary.

A Oh I do not have a doubt and I am not trying to suggest, Mr. Steer, at all that these wells were not originally

drilled with the idea of primarily getting oil.

Q Yes, and I suggest to you that coming down to more recent years, nobody, nobody would think of incurring the expense of drilling a well either on the gas cap or in the crude oil area for the sake of getting gas out of it and gas alone.

A No, I would not agree entirely with you on that, Mr. Steer, because Royalite actually made an application for a permit to drill a well in the gas cap in recent years.

Q No, but I say if the only market was a market for gas and if nothing could be realized from the gasoline content, I am suggesting to you that a person would not think of going to the necessary expense of drilling a well in that area.

A No, I think that is probably true, that if he had no more than one source of revenue it would not be an economic proposition.

Q DR. BOOMER: You could of course charge Canadian Western more?

A Well that is true, as Mr. Steer asks it, it is a very general question he is asking me and there are many specific factors which might arise. The one Dr. Boomer has mentioned for one and another is that it might not be economic to extract the gasoline and therefore it might not be a paying proposition.

MR. STEER:

Q And if the Turner Valley field had been developed solely for the purpose of supplying Calgary with a source of fuel, the development would be an entirely different development, would it not?

A Oh I think that is true.

Q I am told that the number of wells that supply the City of Edmonton from the Viking field is around 50 wells.

A I believe that to be the number. I have that recollection.

Q Or even 40 wells, and there is no doubt about this, that the City of Calgary could be supplied from that gas cap area with an equal number of wells.

A At the present time you mean?

Q Yes, well, no, let us say with that field as it originally existed.and before the tremendous waste which has taken place occurred.

A With the volume of gas being produced by the wells at the time they were drilled in, it would have taken less than 40 at that time, very definitely.

Q Yes, and my point being that if this area had been developed as a gas field the development would have been entirely different and very much less expensive than it has been from the point of view of the capital required, gathering lines, compressors, what about that?

A Oh undoubtedly thespacing of the wells was in part controlled by the recovery of naphtha.

Q Yes, and what the main object was,of all this drilling in Turner Valley, is very well shown by the figures of production of natural gas as a waste product.

A Oh yes, I think that is so.

Q Up to 1943, and I am reading now from the 1943 Alberta Petroleum Industry Report of The Conservation Board at page 20, up to 1943 the production was a billion and 288-odd million and the waste a billion and 21 million and the only conclusion which one can come to from that figure is this, that a field in which natural gas was handled in that way was not being developed as a natural gas field.

A It had not been developed at that time as a natural gas field.

Q Do you suggest, and these figures as to the wells which are connected up at these various dates, have to do with the next question I would like to put to you, do you suggest that a lot of your gathering lines were constructed for the purpose of supplying the gas load?

A That is correct.

Q That was required?

A That is so.

Q Yes. I think you told my learned friend, Mr. Fenerty, this morning and I was not very clear whether this is what you were talking about, I think you were talking about Royalite Number 2.

A Not this morning that I remember now.

Q Well now I want to talk about that. When was Royalite 2 constructed?

A Oh, Royalite Gasoline Plant Number 2?

Q Yes.

A Oh, I am sorry, I thought you referred to Royalite Well Number 2. We were talking about wells.

Q I understand, no, I meant Gasoline Plant Number 2.

A Yes, I referred to Royalite Gasoline Plant Number 2.

Q When was it constructed or erected?

A In 1935.

Q And it was purely a natural gasoline operation?

A Yes.

Q Exactly of the same character as the B.A. Absorption Plant and G.O.P.

A Yes, I do not think there are any essential differences.

Q Now which was the more profitable, I mean undertaking, the Number 1 Plant or the Number 2 Plant, from the point of

view of gasoline alone?

A I do not think I am in a position to answer that question.

Q Your Royalite Number 1 plant is a much larger plant?

A Oh yes. No, the Gasoline Plant, the Number 2 Gasoline Plant was built to handle a load of 65 million and the Royalite Gasoline Plant at that same date was built to handle loads which were somewhat larger.

Q Somewhat larger?

A Yes.

Q Would you say how much larger?

A I think it actually processed over 100 million cubic feet.

Q And what was the ultimate capacity of your Number 2 plant?

A The ultimate capacity, what do you refer to there?

Q The largest volume.

A The largest volume it processed?

Q I take it these engineers built it to do actually much more than its capacity.

A Oh no, sir, you do not build plants that way.

Q That is what I gathered from the evidence about the scrubbing plant, I gathered that it was designed for a certain quantity and then the actual throughput was very much more.

A Well a scrubbing plant is a different proposition to the type of gasoline plant we are talking about. A scrubbing plant is designed to handle peak loads. The gasoline plant we are talking about, a unit gasoline plant operation, it does not have to handle peak loads. It was designed to handle a given volume of gas.

Q Perhaps you can tell me this, what was the maximum capacity?

A Well do you mean . . . . .

Q Of Royalite Number 2.

A Do you mean the largest volume it ever processed?

Q The largest volume it could process.

A Well I told you, Mr. Steer, it was built for 65 million cubic feet.

Q And is that the limit of its capacity?

A I think it processed . . . . .

Q Could it do 75 million?

A Not at an efficient operation, no, you can always put through, you can put 150 million possibly through it actually but you would not extract the gasoline. You build it for a given volume of a given type of gas, to extract a given product to a certain given efficiency.

Q You gave the 65 million figure for Royalite Number 2. Perhaps you will give me the comparative figure for Royalite Number 1.

A I would say with the same efficiency probably 110 or 115 million cubic feet a day.

Q Yes.

Q MR. CHAMBERS: This is as it stood when the Number 2 plant was built.

A Yes, that is taking the conditions it was operated on when it handled that load, the wetness of the gas, the type of product being extracted and these other comparable factors which I mentioned with regard to Number 2. It is not what it would handle at some subsequent date or some earlier date. Just for the particular time it was handling it.

Q MR. BLANCHARD: That is before its size was increased?

A That was before the 1943 consolidation.

Q MR. STEER: Yes.

A Yes, and before we were making iso-butane which has a very direct bearing on the size of the plant.

Q Up until 1938 all the residue gas from the absorption plant was wasted, was it not?

A You are talking of gasoline plant number 2?

Q No, I am talking about Number 1.

A All the residue gas, you said "all the residue gas"?

Q I am sorry, I said "all" but I didn't mean "all"; up until 1938, I will put it this way, there was a flare at your Number 1 absorption plant?

A That is right. As I said yesterday, the balance of the gas which was processed, which was not required either for the Canadian Western or the local market was flared.

(Go to page 3411)

Q And all the gas from the other three absorption plants as we have seen, all the residue gas from the other three was flared ?

A Except what was used in local operations.

Q Yes, after 1938 there was no waste so far as the wells which were connected with your #1 plant was concerned ?

A That is correct.

Q But waste continued in the north end to a considerable degree ?

A From wells not connected.

Q And not nearly all the wells were connected up ?

A No.

Q And all the waste occurred, continued, that we have spoken of in your Royalite #2, B. A., G. & O. P., and all the wells in the south end ?

A It was reduced. There was a limit on the amount of gas cap gas that could be flared.

Q That was by order of the Conservation Board ?

A That is correct.

Q That was a development of the Brown scheme was it ?

A Prior to the Brown scheme.

Q But after that order was made, then the Brown scheme came into effect and controlled it ?

A There were about three schemes Mr. Steer.

Q But the Brown one was the final one ?

A That is the one that is still in effect today.

Q And that is being operated today. What do you say as to the capacity of the Royalite Company to supply the Calgary market from its own sources of supply after the year 1924 ?

A From its own sources of supply. To what do you refer then. Wells wholly owned by Royalite ?

Q Yes.

A I could not answer that offhand. I would have to go and check those volumes, I have had no occasion to examine that.

Q I wonder if you would do that and if you would also tell us whether from Royalite's own wells and from wells that were connected to the Royalite #1 plant after 1936, it could supply the whole of the Calgary market, the whole of the Calgary system I should say.

A Would you read that last question please.

(Reporter reads preceding question.

A It would seem to me Mr. Steer, if I understand you right that the answer to the last question is yes, because we were actually supplying it from those wells.

Q In other words from the point of view of the supplying of the Calgary system, there was not any necessity of rescuing either the B. A. or the G. O. P. flares or the flares of the crude wells either in the north end or the south end of the field. There was an ample supply of gas for the Calgary system without any of that construction ?

A At the present moment, yes.

Q You have spoken about the combination of the #1 and #2 plants in 1943 ?

A I did not get the question.

Q You spoke about the combination - that is not the proper word -

A Consolidation.

Q Consolidation of the #1 and #2 plants in 1943 ?

A Yes, I mentioned it to Mr. Blanchard.

Q That was due to a report that had been made by Mr. Weymouth or was it ?

A I do not know it would be correct to say it was due. It was done after the consultationswith Mr. Weymouth had been started.

Q And is it true to say that the consolidation was largely brought out for the purpose of increasing the quantities of iso-butane that could be obtained ?

A Well it arose at the time. The problem was being dealt with as to how to obtain the amount of iso-butane that was required, but that iso-butane was first obtained and could still have been obtained by the operation of plant #2 as a separate unit.

Q I was going to suggest that to you and to ask you then why if that quantity of iso-butane that was required could have been obtained by continuing to operate #2 why then was the consolidation voluntarily made by your Company ?

DR. BOOMER: Voluntarily ?

Q MR. STEER: It was voluntary was it not ?

A Well as far as I know it was voluntary, there was no order from any authority to do it.

Q Nor was there any authority that I think could make you do it.

MR. CHAMBERS: Are you asking it as a question or are you making it as a statement ?

MR. STEER: I am making it as a statement.

Q If it was not voluntary I would like to know ?

A I have answered that,as far as I know Mr. Steer it was voluntary to the extent that there was no order that I know of compelling that to be done.

Q The position then is that you could have operated #2 and got your iso-butane in just exactly the same way as G. O. P. and the B. A. were getting iso-butane ?

A And #2 plant was actually producing iso-butane itself.

Q And have you any suggestion as to the reasons forthis consolidation ?

A Well I was not present at the discussion so I do not know the

reasons.

Q Would it be a reasonable inference that the consolidation was made so as to get the flare from the old #2 plant into your scrubber ?

A Oh well quite obviously that was one of the reasons because that was one of the effects.

Q Yes, sure and that probably would be the main reason ?

A I imagine it was a large factor, but I cannot state of my own knowledge because I was not present.

THE CHAIRMAN: If there was not an order was there an inducement of any kind ?

A Well Mr. Blackstock all I know of my own knowledge there were discussions carried on with several parties but what inducements were offered or otherwise I do not know.

MR. BLANCHARD: I would be interested in knowing who can give us that information - what official ?

MR. CHAMBERS: What information ?

MR. BLANCHARD: The information as to the reasons for the consolidation.

A Are you asking me that question Mr. Blanchard ?

MR. BLANCHARD: Yes.

A Well I do not think it is a qustion I can properly answer.

DR. BOOMER: I think this properly belongs to another item on the Agenda.

MR. BLANCHARD: Well I only interpolated that because we very frequently run into questions that the witness, for instance Mr. Kirkpatrick, Mr. Mercer and Mr. Stevens-Guille cannot answer and I assume that there is some official of the company that can answer all these questions.

MR. CHAMBERS: Well I can say this. I do not think there

is any one official in the Royalite or any other organization that can answer all the questions of all these operations at the present time as facts. I do not think any one person could.

Q MR. STEER: This is true anyway is it not, that the consolidation followed the making of the Weymouth report ?

A No, actually I think it was in motion before the Weymouth report was published.

Q Before it was published ?

A I think so.

Q But had there been discussions of these various schemes ?

A Oh undoubtedly. I told you just now it was after Mr. Weymouth came up here.

Q Quite so, and broadly speaking there were two aspects of those discussions. One was the consolidation of the #1 and #2 plants, and the other was the carrying out of the scheme that we are now considering. Would I be right in that ?

A I think that summarizes it.

Q And voluntarily your company carried out one part of the scheme and rejected the other ?

A That is correct.

Q Yes, and I suppose the reason why - the natural inference is that you regarded one part of the scheme as an economic proposition and you regarded the other part of the scheme as an uneconomic proposition ?

A I think that statement has already been put on this record in the Preliminary Hearing.

THE CHAIRMAN: Is there not another quite proper inference too, Mr. Steer, that perhaps they did not think the Government would ever make them do it ?

MR. STEER: I suppose possibly that might be so if the Government has made them do it.

A Of course events may prove their judgment was right.

MR. STEER: That is what I am very much afraid of.

MR. DAVIES: Quite true.

THE CHAIRMAN: You will be making it unanimous the first thing you know Mr. Davies.

Q MR. STEER: I got some figures from Mr. Donellan as to what volume of gas might have been expected to go through his absorption plant without the scheme and the volume that might be expected to go through with the scheme. That is clear is it ?

A Yes, I heard you get those figures.

Q And could you give me the same figures with respect to your absorption plant ?

A Well I am not quite clear what you would call with the scheme and without the scheme. You would have to enumerate them for me.

Q All right. There are certain orders made by the Board. Leave those orders out of consideration and give me an estimate of the quantities of gas that might be expected to go through your absorption plant over its life ?

A It could be done. It takes a lot of time.

Q Then consider the effect of the orders of the Board and let me know the quantities of gas that can be expected to go through the absorption plant.

MR. CHAMBERS: If the Board pleases, the matter of getting information whether of the absorption plant or anything else, I think must be kept within some reasonable bounds. In the first place I submit that the absorption plant through-put has

[illegible]: [illegible]

[illegible]

[illegible]

[illegible]: [illegible] I am very much [illegible].

[illegible]: [illegible]

[illegible]: [illegible]

[illegible]: [illegible]

[illegible]: [illegible]

[illegible]: [illegible]

[illegible]

[illegible]

[

nothing to do with thisHearing. But it might possibly be relevant although at the moment I cannot possibly see how it would be, when we come to consider the split between the gasoline plant and the producers, but aside from the technical objections that I could take, the witness is not bound to go over the information, I am not raising that but I do suggest we are going to be far afield and all this examination as I think I made clear before, I am taking objection to, in case I might want to use that objection. I do suggest that at this stage of the proceedings it should not be made.

THE CHAIRMAN: Mr. Chambers, have you ever seen a witness in the box being asked by the Judge to do a little arithmetic ?

MR. CHAMBERS: Yes and I made that remark this morning. We all do it.

THE CHAIRMAN: And Mr. Stevens-Guille did it this morning.

A But Mr. Blackstock I was just going to tell Mr. Steer - I was just going to tell Mr. Steer that it is not a little question of arithmetic. It is a large volume of work to be done, to go over the wells and re-set them up again. It is a matter of days of work.

THE CHAIRMAN: Well I imagine what Mr. Steer is doing, and I may be wrong, He is trying to establish by reason of the Order made by this Board under this Legislation, that over its life time the gasoline plant is going to process many billion feet of gas that otherwise they would not have processed and to that extent the absorption plant is the beneficiary of the Government Legislation, and that he is possibly going to suggest that the gasoline plant should bear some share of the capital cost and the operating cost of this whole operation. Now I may be wrong.

MR. STEER: Much better stated than I could have done it.

THE CHAIRMAN: If that is what Mr. Steer wants I think he is entitled to the information if the witness can give it to him.

MR. CHAMBERS: Then my basic objection to that is that you do not fix utility rates to various consumers on the basis of the particular benefit each one is going to get.

THE CHAIRMAN: Dr. Boomer makes another suggestion which is probably correct and that is that the Gas Company Engineer from the information now on file in those Exhibits can do the arithmetic even if Mr. Stevens-Guille cannot.

MR. CHAMBERS: And I am raising this in all seriousness, at some time when this Hearing is through the question of the cost of this Hearing and the amount to be charged these utilities and the utilities' own cost are going to be the subject of criticism and I am not suggesting from the Board, but from the public. Now as I say we do not want to be niggardly in getting the information but there has to be a limit to some of this. But if the information is in and I think it is in when you took the first Hearing and I do not think it is fair to ask the witness in the box because he happens to be there to do the work when the party cross-examining has probably men capable of doing it.

THE CHAIRMAN: Let us put it another way. Last week I think it was Mr. Donellan suggested that because of the low pressure system put in by the B. A. that his Company would process 12 billion more by reason of the scheme. Now can you give us a round figure like that ?

A Well as I say Mr. Blackstock, it means going back through when

the wells were connected and our records are set up in such detail that they are not in round figures. They would have to be computed all the way through to obtain the answer.

THE CHAIRMAN: If Mr. Browning could get the information he should do it.

MR. CHAMBERS: I think he should try in the first place.

MR. STEER: Well yes I have spoken to Mr. Browning and I would suggest that Mr. Stevens-Guille is the most competent person to give us the figure.

MR. CHAMBERS: And he says he has not got them at the moment.

MR. STEER: You will do this, Mr. Stevens-Guille. First of all the question is quite clear ?

A Yes it is.

Q As explained by the Chairman it is exactly what I have in mind. It is exactly the same line of questioning that I put to Mr. Donellan and I want to know how much benefit Royalite's absorption plant is going to get from the construction of these facilities by way of additional through-put.

MR. CHAMBERS: And the draw back it is going to get too. I would prefer to have Mr. Stevens-Guille put it in altogether.

THE CHAIRMAN: I think we will adjourn for a few minutes.

(The Hearing then adjourned at this time for a short period)

(Go to Page 3420)

Q Mr. Stevens-Guille, please do not pay any attention to that last question in the meantime.

A Thank you, sir.

MR. CHAMBERS: A suggestion has been made that we might have to have an increased meat ration.

Q MR. STEER: Have you made any computation of the saving in operating costs that would result if your purifying plant was a pure Girbotol process?

A Yes, we have made some study of that.

Q And are you able to tell us what the saving in operating costs, if any, would be?

A Well our estimate showed that if we operated it at the present time as a Girbotol process only there would only be a saving in the order of 7 thousand dollars, between 7 and 8 thousand dollars in the year on a total operating cost of, for 1944, of approximately $180,000, I think it was.

Q Roughly, how would that saving be effected?

A The saving would be in not requiring the operator that now handles the solution pump for the Seaboard system.

Q MR. BLANCHARD: So that is just a direct operating cost?

A Yes, a direct operating cost.

Q MR. STEER: That is to say the services of only one man would be dispensed with?

A That is correct.

Q MR. HAMILTON: That is one man per shift?

A One man per shift, yes.

Q MR. STEER: That is a 24-hour process?

A Yes, three men per day.

Q Will you tell us your view of the purpose of the installation

of Compressor Station Number 3. What is the purpose of its installation? Am I right in suggesting that it is there to control the back pressure so that the oil wells can continue to operate and still deliver gas into the system?

A Well it is a gas booster station. It was put in to pick up gas from wells operating between 60 and 100 pounds. That was at the time of its installation being completed.

Q Would you say that the lines that are connected to that Number 3 station can feed into the main line as gas wells without this station?

A Into which main line do you refer?

Q Well I suppose it would be the transmission line up to the scrubber.

A The B.A. residue gas transmission line?

Q Yes.

A No, it is wet gas and it would have to be processed before it went to the scrubbing plant.

Q DR. BOOMER: Is it not true, Mr. Stevens-Guille, that much of that gas that you take to the Number 3 station at one time went through to Number 1? [illegible]

A Quite a large proportion. [illegible]

Q And the Number 3 plant was put in to transmit that gas to Number 1 when the Number 2 was closed down?

A Perhaps I had better explain the point. There was a compressor station at the present location of Number 3, which we also called Number 3, which boosted the gas to our Number 2 plant.

Q It was a very small station?

A It was a small station. When the Number 2 plant was shut down the installation was greatly enlarged and the gas that

had been boosted to Number 2 was boosted to Number 1 and the proportion of the wells that had been delivering gas under natural pressure to Number 2 were picked up by these compressors and pumped up to Number 1. Does that complete the answer?

Q Yes.

Q MR. STEER: I was wrong in my reference to the B.A. transmission line. What I have to suggest to you is this, that the wells that are now connected to the Number 3 Compressor Station could deliver their gas into the line that leads up to your absorption plant without any necessity for this compressor station. They could feed direct into that line.

A No sir. If they could, the compressor station would not be there.

Q You say that the compressor station is there for the purpose of . . . . .

A Of boosting the pressure.

Q On the gas?

A On the gas, to be able to deliver it.

Q It is not true to say that no matter what the pressure the wet gas could go direct into that line leading up to your absorption plant?

A Perhaps the point you have got in mind is there are some wells in that area which are delivering direct without being boosted to gasoline plant Number 1. But that gas is not passing through compressor station Number 3. It is passing into the discharge side of the station under natural pressure.

Q Your view then is that Number 3 compressor station does not

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W I T N E S S E S

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assist at all in the operation of the oil wells in that area?

A Well it assists in the operation of the oil wells to the extent that the gas from these oil wells would be flared.

Q Otherwise?

A Otherwise. But it does not function in producing oil to the surface.

Q And there is no function for that Number 3 compressor station in controlling the back pressure with respect to those oil wells?

A Well I am not sure that I understand your question. The only assistance Number 3 compressor station gives to an oil well is to pick up its gas if it is operating at too low pressure to deliver that gas directly into the gasoline plant.

Q In the June report of the Conservation Board I observed that . . . . . that is June, 1945 . . . . . I observed that 23% of the gas produced, if my computation is correct, is still flared, that is correct is it?

A I did not know the figure was 23%. I thonght it worked out at about 17½%.

Q Well I see here "Field disposition Turner Valley. Waste, 534,117 and then I have got absorption plant disposition, Turner Valley, waste, 117,847. Now that makes a total of 651,964 if both those figures are flares, are they?

A Well I cannot say offhand. I have not got the report in front of me.

Q Well perhaps you could look at it and tell me.

A Yes, the first item seems to be the wet gas flared and the second item the other gas flared.

Q And that figure over 2,766,233 would give us the percentage would it?

A Yes, that is right.

Q Why is it necessary, with this scheme in operation, that still 23% of the gas should be wasted?

A Well that is tied up, Mr. Steer, with the answer to Mr. Blanchard the other day, which he asked the same question. We said we were preparing data on the amount wasted and the waste of course is in two ways. One from the wells not connected and secondly from the wells which are connected which either, due to the rate at which they were produced or to, in some cases, operational difficulties on lines, compressor stations, they could not enter the system. That quantity was large as Mr. Blanchard brought out. I think his figures were based on May, 1945. It has been decreased according to this study we have made of some of the wells. We have not completed it through to the present time and is now down on Royalite-operated wells below the estimate included in our figures. Because if you will remember in our report we always showed that a certain proportion would be flared due to these operating difficulties.

Q You are preparing that statement and are going to submit it are you?

A That is the arrangement, yes.

MR. CHAMBERS: Towards the end of the Hearing.

MR. STEER: Oh yes, towards the end of the Hearing.

Q Your Madison system, I take it, is designed to carry the full Calgary load without any assistance from the South end at all, is it?

A Yes. It was in existence before that South end connection was made.

Q Then considerable expense is incurred for tying in to the

B.A. and G.O.P. plants?

A Yes, sir.

Q Does it follow from that that so far as the Calgary demands are concerned now the system is over-built?

A We do not feel so, sir, because the possibility of losing the load from the South, if we did lose it it would be losing a substantial proportion of the supply and has actually happened and could happen again.

Q Your Madison system alone is capable of carrying the full load.

A That is correct.

Q Then it could continue to carry the full load for a considerable period in the future.

A Provided the necessary additions were made from time to time that we have already shown projected.

Q Quite so. But from the point of view of supplying gas to Calgary at the moment there is no necessity for the construction of the lines to the South end at all.

A From that point of view, no.

Q So that what I am suggesting to you is that there is at least a temporary over-building of these facilities for the purposes of supplying Calgary with gas, the Calgary system.

A From that point of view, yes.

Q So far as Madison is concerned they could get along with very much less construction than has actually been made and when occasion arose in the future they could either build or switch their facilities.

A Less construction than has actually been made. By whom? To whom do you refer?

Q I mean in the whole scheme.

A The field as a whole?

Q Yes.

A Oh yes. The Madison system in itself was capable of supplying before the scheme as a whole was put in.

Q And that applies to the Home Oil connections that have been referred to. They were not necessary to supply the market?

A No, if the gas cap was opened proportionately.

Q And the only purpose, the main purpose - it is fair to say the main purpose of making those Home Oil connections was to prevent the waste of that gas which was being used for the production of oil?

A Yes, with the one reservation that of course at some point the gas cap wells, without the assistance of the gas from the crude oil wells, would not be able to supply the market and stay within its quota.

Q Well you are closing in of course a corresponding amount of gas cap production.

A That is right.

Q I am showing you now Exhibit 98, that is Royalite R-2, and I wonder if you could account for the decrease in the estimated revenues as shown.

A Well you understand, sir, I did not prepare that figure.

MR. CHAMBERS: There was an amended statement put in.

MR. HARVIE: Exhibit 100.

Q MR. STEER: The figures I think I am interested in were not changed from the original statement.

A Mr. Steer, I did not prepare that statement.

Q So you do not know anything about it?

A Well I could hazard some guesses, sir. But I am not in a position to give you the correct information.

Q Your statements, if I may say so, are very seldom guesses, or they are not made.

A Well I will put it another way. I could make some assumptions of what the people who made it used.

Q Well here is Exhibit 100 and I wondered why the revenue of the gasoline plant is going to fall sharply between 1944 and 1948. Do you think that is going to be the actual experience of that plant?

A Well I can only answer, Mr. Steer, that I assume that it was estimated that the present product would not be produced in those years where the revenue has been shown to drop so fast. Whether or not it will I cannot tell.

Q It is not a question of volume, it is a question of value is it not?

A The value of the gasoline plant product. I did not even talk to the people who prepared it so I am just making an assumption.

Q MR. HAMILTON: And I suppose that the probable reduction in the load by reason of the nitrogen plant going off entered into the calculation.

A That definitely enters into it. I thought Mr. Steer understood that.

Q MR. STEER: Do not make any such assumption.

A Of course it follows from your own figures that you gave us that we put on record that the market demand was going to decrease and that it must have been reflected in the throughput of the gasoline plant which in itself would have the effect.

Q That is the effect but that is not the main consideration. Your view is that the main consideration would apply to

the value of the products . . . . .

A No, my assumption on that is that decline in the revenue figure there is compounded upon its two factors.

(Go to page 3429)

Q Is which?

A Is the compound effect of the two factors.

Q Of the two?

A Yes.

Q That is all.

THE CHAIRMAN: Mr. Harvie?

MR. HARVIE: Nothing now.

THE CHAIRMAN: Mr. McDonald?

.....

CROSS-EXAMINATION BY MR. McDONALD.

Q Mr. Stevens-Guille, in Mr.Donellan's evidence he referred to the fact that the product of the absorption plant may vary from, I think it was a 46 pound product to a 23 pound product, in that neighbourhood. Now, in the event that that should happen, will there be a change in the volume of gas that would be used by the absorption plant?

A You mean consumed in the operation?

Q Yes?

A Oh yes, it will decrease if the product changes back from what Mr.Donellan described as a 45 pound product, I think he was referring to the iso-butane product being made today, back to the specification that was in force for many years of around 20 to 26.

Q Then any estimate either by Royalite or the British American where they use a basis of volume used in the absorption of 15%, on a change of the product may go back to 12%?

A Yes, that is right, down to the 10% that we used originally as the figure at the preliminary hearing here.

Q And that would change then the volumetric distribution of

the gathering and compressing costs?

A If they are based on a volumetric basis, yes.

Q Yes. I was interested, Mr. Stevens-Guille, in the questions put to you by Mr. Steer as to the development of the Turner Valley field, as a gas field. Now, you were present in the field in 1931?

A Yes.

Q In that year there was a hearing before the Public Utilities Commission in regard to gas matters in the City of Calgary, do you know that?

A I believe there was. I was not present and I have never seen any transcript of the record.

Q Well now, I am going to suggest to you that about 1932 there was an order made, not actually an order, but it was suggested that the total production of gas in Turner Valley should be restricted to 100 million cubic feet per day, have you any recollection of that?

A Well I have a general recollection of orders of that nature at that time. I could not state specifically that there was an individual order giving that quantity.

Q But the suggestion was made that the production be restricted, the over-all production be restricted to 100 million cubic feet per day?

A I think, Mr. McDonald, the actual fact of the matter here was wasn't it, that there was a Turner Valley Natural Gas Conservation Board actually in legal existence which publis ed monthly the allowables, the allowable gas production for each well. Is not that to what you are referring?

Q I was coming to that. And following this discussion that arose over this proposed order, the Conservation Board was

set up, or a Conservation Commission, I think it was at that time?

A Well I do not know exactly what its legal entity was, but it certainly functioned in Turner Valley, and I had a little to do with its function.

Q The over-all production as a result of this Board's activity was that the total production was restricted to somewhere in the neighbourhood of two to two hundred and fifty million cubic feet per day?

A I think initially it was something over 500 million and cut down to 250 .

Q And dealing with the thing chronologically, the reduction from 500 million cubic feet per day to 250 million cubic feet per day, followed a sitting or a hearing of the Public Utility Commission in 1931 and '32?

A I think that is correct, although at that time I did not connect it with the way you are thinking of now.

Q Now I am suggesting to you that when the Conservation Board deals with the controlling of production on a gas production basis, whether an oil field or a naphtha field or a crude oil field, that it is really a gas field?

A Well, Mr. McDonald, all the way through here I have tried to say that I do not see how you can call it an oil field or a gas field. I call it an oil and gas field in the face of what I think is a reality.

Q This 200 million cubic feet, or in that neighbourhood, of the allowable allowed was in part based on the regulation which provided for 25% open flow to any gas well, have you any general idea about that?

A Yes, I think that was the limitation that it was based on.

Q And the Royalite Company operated on that allowable based roughly on 25% open flow up to 1938?

A No, I do not think that would be quite correct. Around in about the time you are talking, Royalite or rather Imperial Oil, imposed voluntarily a measure of conservation of its own by limiting the amount of naphtha that was accepted and that had the effect of conserving the gas.

Q That had the effect of conserving the gas?

A Yes.

Q Between 1933 and 1935 or '6, did the Royalite Company acquire control of the gas cap?

A Yes, it purchased a number of properties on the North, the Northern gas cap.

Q And generally controlled.....

A Did not have complete control. There were two wells that were producing which were not under its control.

Q Exclusive of these two wells they did control the gas cap?

A That is right, from one section south of Hartell, I cannot quote its number, to the Foothills 1 in the North end.

Q Now the result of this unified control of the gas cap was that voluntary conservation was practised by the Royalite Company?

A Yes. And I think it was in 1936 that that Turner Valley Field Natural Gas Conservation Board, if I have given it its right title, went out of existence. It was upset in the Supreme Court, the reason was, and from about 1937 through to 1938 when the present Petroleum and Natural Gas Conservation Board came into existence, Royalite limited the volume it processed through gasoline plant No. 1. I mentioned this morning that plant having a capacity of over 110 million, but

it put that volume through for a very short length of time. It reduced it and was operating on about 75 million, 75 to 80 million, if my memory is correct, from 1937 through to October 1938, flaring the excess over market requirements. And then in 1938, from 1938 on, the volume processed was limited to the market requirements.

Q Yes. Now I suggest to you that in dealing with conservation of gas in this way, the Royalite Company was in fact safeguarding its interests as a producer of gas for sale to the Gas Company?

A Oh, very definitely. It had nothing else to gain.

Q And it was carrying on its policy which had been in existence since 1921 to provide gas to the Gas Company?

A Yes. But it was in the oil and gas business.

Q I see. Now, Mr. Stevens-Guille, I think you suggested to Mr. Steer that say in 1943 the Madison Company, in 1944 the Madison Company could supply the gas required for the City of Calgary. Now were you referring to the plant in operation in 1944, that is, the Number 3 plant was added to the capacity of the gas cap?

A Yes, the Number 3 plant as it exists today, was started up on November 1st, 1943.

Q Well now, could you tell me whether the Madison Gas cap, or the Royalite gas cap rather, supplied the market in 1944 exclusively from the gas cap within the terms of the Brown allowable?

A Not within the terms of the Brown allowable.

Q What would be required in addition was this gas being recovered from the Number 3 plant?

A Well, even with the gas from the Number 3 plant, you have got

to include also the crude oil wells connected to the gas gathering system contributory to compressor station No. 1, as well as the wells contributory to compressor station No. 3.

Q Yes?

A To augment the gas cap gas.

Q Now, Mr. Steer put to you the question with regard to the development of this field as solely for the purpose of supplying gas, and he suggested that possibly the gas cap could have been developed for fuel purposes only with under 40 wells being drilled?

A Well as I understood Mr. Steer, when he was asking me that question, he was presupposing that Turner Valley was a dry gas field, because he was comparing it with Viking. Is that not correct, Mr. Steer?

MR. STEER: That is right.

Q MR. McDONAld: Well, as a matter of fact, it still would have been necessary even if it was a dry gas field, we will assume that the wells would have to be drilled to develop the depth at which they are now to get the pressure that was originally in the field?

A Yes. The wells would have to be drilled to the same depth if the dry gas producing horizon was to the depth of the limestone.

(Go to Page 3435.)

Q And then the value of the gas that would be produced from that field would be based on the cost of development and the market that was available for gas of the wells drilled ?

A Do I follow you right. Do you mean that the value you would have to receive in revenue from the gas would have to be sufficient to cover the cost of having drilled those wells to that depth ?

Q Yes.

A Well I think that follows if it was to be a commercial enterprise.

MR. McDONALD: That is all the questions I have.

CROSS-EXAMINED BY MR. HARVIE:

Q Mr. Stevens-Guille I think in your evidence yesterday in cross-examination there were some figures came out that might be useful to us if we should get them reconciled. I think in your testimony there you used the figure of 64 billions of gas in the south end or the B. A. area of the field and Mr. Steer compared that with 50 billions that was used by Mr. Donellan. Have you been able to reconcile or give any further consideration to those figures with a view to reconciling them ?

A Actually it was only this morning Mr. Harvie, not yesterday. I have not given it any further consideration beyond the remarks that I made then as to the possible cost which I think was brought out in the earlier evidence if you go back to the evidence of reserves.

Q When ?

A Going back earlier when the evidence was being given on reserves. There was a reconciliation made of reserves estimated by all the witnesses.

Q My impression of the general effect was that the higher reserve of 64 billions was based on average pressure of wells of 100 pounds and the Weymouth plan has made 150 to 200 pounds used on the average by Mr. McCutchin. That would be one factor.

A I think that was one factor.

Q And the second factor was I think the figure of 50 billion used by Mr. Donellan was as of the first of this year whereas your figure employed or used in Exhibit 47 was as at the first of 1944 ?

A That is correct. All our estimates are based from January 1st 1944.

Q So there would be those two figures to reconcile and in the note on Table #6, Exhibit 47, that was the estimate of throughput for 1944 4,315,000,000 ?

A That is correct, still in that same column 15.

Q Now in Mr. Chambers examination I think the question came up here, evidence came out, that the absorption plant was built in 1933.

(Go to Page 3437)

A That is Royalite gasoline plant No. 1. That is correct.

Q And that was the first absorption plant in the field except this small one which was used for part time in Royalite 1, 2 and 3 wells?

A That is correct.

Q Now prior to 1933, you were selling gas to the Gas Company?

A That is so.

Q And the only product that came out of that gas was the separator or casinghead gasoline, as we called it?

A Separator naphtha was the official title at the time.

Q And all the separators were onthelease or in batteries adjacent to the lease?

A In general, yes. There were actually one or two of the wells separated down in the Royalite plant yard.

Q Those were wells.....

A For Royalite 4 had a direct line for example, to a separator located in the yard.

Q So all the gathering lines from the downstream side of the separators were installed up to that time, installed solely for the purpose of collecting gas for the scrubbing plant and sale to the Calgary market?

A That is correct.

Q It might be throughout the evidence scattered all over, these figures that I am going to ask you for are hidden away some place, but I would just like to get a picture of your gathering system in this way. What is the pressure that you deliver gas to the Gas Company downstream scrubber?

A 300 pounds.

Q What is the pressure of your intake on your absorption plant?

A 325 pounds.

Q Is there not repressuring between the absorption plant and the s crubber?

A I beg your pardon?

DR. BOOMER: Would you repeat that question please?

A On the inlet of the absorption plant is the question.

Q MR.HARVIE: Is any repressuring done between the inlet of the absorption plant and the inlet of the scrubbing plant, repressuring?

A The connection to the suction of the compressors for the repressuring project is connected in between the gasoline plant and the scrubbing plant.

Q For the repressuring?

A That is right.

Q But all the gas that is scrubbed goes into the scrubbing plant? I beg your pardon, The absorption plant at 325 pounds.

A Would you repeat that?

Q All gasoline that goes into your Number 1 absorption plant goes in at 325 pounds?

A Yes.

Q Now that gas comes from various sources. Some from high pressure wells an which there is no pressuring necessary?

A No pressuring necessary.

Q No compressing?

A Oh no. No well is delivering gas direct to the gasoline plant today. The gas from every well passes through either one or the other, or both compressor stations.

Q So all gas coming into the absorption plant is compressed at some stage or the other?

A That is correct.

Q Taking your Number 3 compressor station, what is the intake pressure at that station?

A 60 pounds.

Q So you are gathering all gas in that area at around 60 pounds?

A No, it varies from 60 to about 100 pounds at the wells at the extreme end of the line.

Q And how high do you compress that gas at that Number 3 station?

A The present time to about 275 pounds.

Q And that passes up into another compressing station and you put it through the absorption plant?

A It so happens that the present time it is a matter of balancing equipment against loads.

Q What otherlines come into your compressor up stream of the absorption plant?

A I am afraid I have not got the question.

Q Would you say that all gas that comes from all wells to the absorption plant is compressed before it comes into the absorption plant?

A That is right.

Q And we have dealt with the line from the Number 3 compressor plant?

A Yes.

Q What other intake lines are there to compressor stations?

A There are five gas gathering lines tributary to compressor station No. 1.

Q Will you just tell me where they come from and at what pressure they are operated and at what pressure they deliver gas?

A Do you want that in map reference?

Q No, I just want the pressure.

A There are two lines travelling approximately Northwestward up the field from the compressor station 1, and the longest of those lines, Number 2, terminates in Section 17 or 18 of - I have got a map here - terminates in Section 17, Township 21, Range 3.

Q Have you any special designation for that line?

A Yes, the gas gathering line Number 2, and that is the one that feeds the extreme North end of the field.

Q And what pressure do you operate that on?

A The suction pressure at the compressor station at the present time is 200 pounds, and the pressure up at the far end in Section 17 normally is 300.

Q What is your next line?

A There is gas gathering line No. 1, the outer one of the two which travels in a general Northwesterly direction, and it is connected to the gas cap wells in Sections 12 and 13 of Township 20, Range3, and also travels Westward into Section 22 of the same township where it terminates.

Q What pressure does it operate under?

A The suction pressure of course is the same, 200 pounds, and the pressure at the end of that line probably would be in the order of 250-275 pounds, according to the number of gas cap wells delivering into it.

Now then there is a third line, gas gathering line Number 3, which runs Westward from the compressor station No. 1 into Section 1 of Township 20, and then travels Southward, crosses the river, Sheep Creek, at Royalite 19, and then runs on Westward still in the same section into Section 2 of the same township, and then a lateral travels Southward into Section 35, Township 19, still in Range 3,

and the pressures on that line are of course 200 pounds at the plant and about 220 pounds at the far end.

There are also two lines running in a general Southeasterly direction down the gas cap lines Numbers 4 and 5. They travel largely together to the Northeast corner of Section 19 of Township 19, in Range 2.

Then line Number 4 serves the old Home area in Section 20 and travels Southward to pick up the Mayland wells in Section 17 and the Southern Lowery wells in Section 9, and Southwest Pete wells in Section 8. The suction pressure on that line, of course, is 200 pounds, and the pressure at the far end would depend very largely upon what gas cap wells are being operated, but will probably run 275 pounds.

(Go to page 3442).

And the fifth line which travels to the corner of section 19 with gas gathering line number 4 travels on southward and becomes the discharge line for Compressor Station Number 3. Therefore at the present time there is that line that is going to Compressor Station Number 3 and discharging into the suction of Compressor Station Number 1 and the pressure at Station Number 1 is 200 pounds and as I already told you at the discharge of Station Number 3 it is about 275 pounds.

Q MR. HARVIE: How many wells, that is low-pressure wells, are connected to Station Number 3 do you know at the present time?

A I do not have the actual figure offhand in my head.

Q Maybe you can answer, maybe this will give you the information, Mr. Stevens-Guille, do you know how much gas you are compressing at Station Number 3 up to the 275 pounds at the present time?

A An average of 12½ million cubic feet per day.

Q Now aside from that 12½ million cubic feet that you are picking up downstream of the Number 3 compressor station you are not picking up any low-pressure gas below figures running from 220 pounds up to as high as 300 pounds.

A We are not picking up any gas other than what is connected to either of those two systems operating at those pressures.

Q From those figures you gave me, you say that Number 2 at the end of the line is about 300 pounds and you go down to Number 3 around 220 pounds.

A That is right.

Q So your system does not look after any low-pressure gas below those figures except in respect of the 12½ million

cubic feet that you compress from around 60 to 100 up to 275.

A That is correct.

Q And how much of that is G.O.P. gas?

A How do you mean, G. & O.P. gas?

Q You are doing some compressing for the G.O.P. dry gas?

A Oh I have not dealt with that in what I have given you. I have just given you the wet gas gathering system.

Q The G.O.P. gas does not enter into these figures at all? You are doing that in addition?

A That is correct.

Q And what are your pressures on that operation? What is your suction pressure?

A The suction pressure runs between 55 and 60 pounds and the discharge pressure about 335.

Q That is where it goes into the B.A. line?

A That is correct. Well it would be higher than 335, I should say about 365. That of course varies somewhat with the load on the line.

Q How much gas are you getting from the G.O.P.?

A About 4½ million cubic feet per day.

Q And is it on the decline or is it increasing?

A Well the question of decline does not enter into it. The controlling feature at the present time is the capacity of the compressor. They are keeping that compressor loaded.

Q So your 4½ million cubic feet is the capacity of the compressor?

A That is right, between 4½ and 5 million.

Q So we may say that other than that 12½ million feet of gas and the 4½ million feet that you get from the G.O.P. - or we will leave out the G.O.P. entirely - that all the gas

that is being produced in your area of the field, North area of the field, is being flared.

A If it is produced below those pressures on our gas gathering system that we have enumerated.

Q I think maybe Mr. Steer asked you if you could give any estimate of how long the Royalite could supply the Calgary market from its own operations or its own wells.

A He has asked the question on those lines.

Q And you have not made any study of that?

A That was only this morning too.

Q And you cannot add any further information to that?

A No, sir.

Q Mr. Steer also referred to page 2 of Exhibit 114 where it showed there was 189,971,000 feet of gas flared during the 7 months' period in the B.A. operation.

A Yes.

Q Are you familiar with the operations as to whether that situation is improving, standing still or getting worse?

A I have not studied the figures in detail, Mr. Harvie, but my general impression is that the volume being flared is decreasing.

Q Decreasing?

A Decreasing.

Q And that information would possibly show up in this statement you told the Chairman was being prepared to be filed later on in the Hearing?

A Yes.

Q Mr. Stevens-Guille, the gas that is being taken from Turner Valley by repressuring in Bow Island it is necessary to compress that up to the pressure going through your absorption

plant and scrubber the same as the gas going to the City of

A Calgary?

A Yes.

Q It is also necessary to scrub it?

A Yes.

Q It is also necessary to transport it some 100-odd miles or more to the Bow Island field?

A That is correct. It travels down their transmission line from Okotoks down to Bow Island.

Q I understand one reason given for that operation was that the compressor station was already installed down at Bow Island.

A That is correct.

Q Has any consideration been given to moving that compressor station from Bow Island with a view to saving scrubbing and other costs?

A I do not think it would be suitable in any event. I do not know of any detailed study having been made on it. The capacity of the compressors, or I should say the working pressure of the compressors at Bow Island at the present time is something on the order of 500 pounds I believe, whereas to return gas in Turner Valley a pressure up to 800 pounds is being used.

Q Would it be possible to use this for the first stage of compressing the gas up to 500 pounds?

A Oh, it would be possible to do that, yes. But of course the Madison system, as you know, does not work on two stages. It is worked on one stage from the discharge side of the gasoline plant.

Q I gather from what you say, so far as you know, no detailed study has been made as to making that change?

A That is correct.

.....

CROSS-EXAMINATION BY MR. BLANCHARD

Q Following what Mr. Harvie has just been touching on, what volume of gas do you anticipate will be stored at Bow Island altogether from Turner Valley? I think something was given in M-8?

A I was just going to look. I think it has been given but I have not got it.

MR.HAMILTON: It is included in the Turner Valley storage in Volume 8, I believe?

A Yes.

Q MR.BLANCHARD: If I am not mistaken it was in the order of 5,000,000 cubic feet a day during the summer months for 5 years?

A That is approximately what it is. If my memory is right, we assumed there to be about 200 pumping days a year at an average of 4 million for each of those years. That is just a rule of thumb figure, but it is worked out in more detail and I can supply the figures. But I have not got them now. I think it is only estimated actually up to the end of 1948.

Q Now in your submission nothing is charged, no charge is made

by Madison for gathering gas that is repressured?

A No.

Q Well, is that good business for a company not to charge for gathering gas? Why does it not do so?

A Well that is part of the whole submission, Mr. Blanchard, as to the suggested way of allocating the charges between the different parties. It might be wrong and it might be right, but it is just a submission that that is how it should be done.

Q As your submission stands then, it is all included in the cost that would be paid for gas by the Gas Company?

A That is right.

Q Now you are employed only by Madison, is that correct?

A That is correct.

Q But prior to the incorporation of Madison you were employed by Royalite for a good many years?

A That is correct.

Q In what capacity, field superintendent?

A No, at the time Madison was formed I was superintendent of the gas and gasoline department of Royalite.

Q That would cover natural gas, that is all the gas operations as well as absorption plant operations?

A That is correct.

Q For how many years?

A Well I first went into the employment of the Company in 1928,

(Go to page 3448).

Q Now then, the Royalite made a contract with the Gas Company to sell gas to it at a certain price. The first contract was made in 1921, I think?

A That is correct.

Q And the price was 13 cents a thousand cubic feet?

A I am not sure on that point.

Q That price was gradually reduced, it was reduced at different stages, and it was reduced in 1925 to 9 cents, and then apparently the rate changed for a time in 1926 to 9½ cents, and in 1927 went to 10 cents, and in 1928 it was 9 cents for a part of the year, and 8½ cents for another part of that year. And then a change was made in 1928, on October 1st, to 7¾ cents a thousand cubic feet, and that is the price that has attained ever since that time, you know that?

A Yes.

Q Now then, I assume that Royalite at that time and as always as a well managed company, kept a cost accounting system?

A Of its operations as a whole, yes. At least when I say "Yes" that is secondhand information.

Q Before it accepted the price of 7¾ cents for its gas, I assume that it must have prepared some statement for its own information as to how much that gas cost based on the investment, rate of return and its operating costs generally?

A Well I have no knowledge whatsoever, Mr. Blanchard, on that.

Q That is just what I want to know, who has the knowledge?

A Well, that was in 1928, I could not answer that.

Q Well do you know who would have knowledge of that now, what official of the Company would have some knowledge?

A Well I do not know, sir.

Q Well, can you find out?

A Well I do not know,sir. It is not part of my function to do that.

Q Perhaps Mr. Chambers will tell us. Do you know how much of that 7¾ cents was the well head price of gas apart from the costs of delivering?

A Only to this extent, Mr. Blanchard that I know that gas was purchased at 2 cents at the well head in recent years. Actually in 1928 gas was all Royalite's so that there was no point of having posted well head prices.

Q And has any considerable quantity been purchased from other companies?

A At 2 cents?

Q Yes?

A Oh quite a large quantity of gas, yes.

Q Just when the peak loads are on?

A You are talking now of the whole period of time, 1928 to 1944?

Q Yes, I am talking of the whole period?

A Well, in the latter years quite a large volume of the total market for the year was purchased from companies other than wholly Royalite owned.

Q I am not referring to what has been done at any time in the last two years, - I am not referring to what has been done at any time. In the last two years, let us say, or three years, prior to that was there any considerable quantity purchased at 2 cents?

A Not for a number of years, no.

Q Well, would this Board be right in assuming in arriving at the price of 7¾ cents, the Royalite fixed its well head price at 2 cents, and then the 5¾ cebts covered all its operating

costs?

A I really cannot tell you, Mr. Blanchard, how that price structure was set up. I have no knowledge and I have never seen any record at any time how it was done.

Q You would expect that it was based on information known to the Royalite as to its costs and was not simply some arbitrary figure picked out of the air?

A Well, I imagine it was done with some relation to some costs. Of course it did not have a set of well head prices at that time, as I said, because it had more than ample gas of its own.

Q Quite. But was it charging anything for its gas at all?

A Charging whom?

Q In other words, I want to have a breakdown of this 7¾ cents?

A Well, Mr.Blanchard, I can only in all honesty tell you that I do not know.

Q And that is what I expected, but I suppose somebody does know?

A Well I cannot even answer that question, Mr.Blanchard.

Q Then in more recent years there was a contract made with the Nitrogen Plant. Was that contract made between the Royalite and the Allied Chemicals?

MR. CHAMBERS: It is in as an exhibit.

A No, I do not think that contract is between Royalite and the Alberta Nitrogen.

MR. STEER: It is between the Canadian Western and the Alberta Nitrogen.

MR. BLANCHARD: Between the Gas Company?

MR. STEER: There is a copy of it. May I intervene? I placed on the Board's desk this morning two affidavits and to one of those affidavits the contract is

attached.

MR.FARVIE: I just was reading it now, Mr.Steer, and I think there is a point in this contract. The price of this gas to be supplied under this contract shall be 7 cents per thousand cubic feet, arrived at, it says here, under the methods arrived at in the previous clause, and this is based on the contingency of Royalite selling gas to the Gas Company for the purposes of this contract at a price not exceeding 5.4 cents. I was wondering whether that contingency developed.

Q MR.BLANCHARD: What does Madison receive for the gas that is delivered to the Gas Company for delivery to the Nitrogen?

A Well, I do not actually handle that so that I have not got any first hand information. The accountant can answer that question.

Q Well perhaps my learned friend will tell me?

MR. CHAMBERS: I think it is around 7 cents. There is some evidence in with regard to that.

MR. STEER: 5.4 cents is the answer.

MR. BLANCHARD: That is what the Gas Company pays the Madison?

MR. STEER: That is right, then sells to the Nitrogen Plant at 7 cents.

MR.BLANCHARD: All right.

MR. STEER: May I interject here? I think that this ought to be made clear that that Nitrogen contract was a contract made because of the war emergency and only because of the war emergency.

Q MR.BLANCHARD: Do you know whether that 5.4 cents covers costs, the operating costs of Madison, including a rate

of return and the price for the gas at the well head?

A Well the revenue from that, Mr. Blanchard, in the accounts already submitted for 1944, together with the revenue from the other sources, covered the cost of operation. You cannot say that the price of 5.4 alone covered the cost of operation.

Q Well then, it is a patriotic price, is it?

A No, it is revenue from all sources pooled.

Q I understand that. I understand that. And if you had no other customers than the Nitrogen Plant, that is, through the Gas Company, would that price cover costs?

A Well I have never worked it out, but if I get you right, you mean if all the gas had been sold at 5.4 cents, would Madison's operations have been profitable in 1944?

Q Yes?

A I have never worked that out to see.

Q Can you find out for me whether in fixing the price of 7¾ cents, which includes the well head price, if there was any charged, can you tell me or find out for me - no,I will reserve that question. Well, then the situation is that you cannot give me any information on the breakdown of that price?

A That is correct.

Q And you do not know whether in arriving at what was the fair price to charge the Gas Company or rather in Royalite accepting 7¾ cents as a fair price, you cannot tell me whether their investment was based on book values or reproduction costs new at that time?

A I have no knowledge whatsoever of how it was done, sir.

Q Well tell me, are the direct operating costs of Madison higher than would have been the direct operating costs of Royalite

if Royalite had continued to operate this gas company as an integrated operation with its other operations? In other words, in the separation of these two companies, has it resulted in higher direct operating costs?

A Well I have never seen a comparison made on that point, Mr. Blanchard.

Q Have you an opinion about it?

A No, because I have made no study of it.

Q Is there any way of finding out?

A The study could be made, I suppose.

Q I do not like to have you do all these things.

I think when you are asking me an accounting question, I think it should be clear that my time is fairly obviously occupied elsewhere, and I have not got these things at my finger tips.

Q Have you any reason to think that there might be an increase by reason of running them as separate operations?

A No, I do not think so.

Q Now, just for the record, there is a question I want to ask you about the number 3 compressor station, and the discharge line to the absorption plant. And this is something that I think you did give me some information about off the record. First, when was the Number 3 station first projected?

A Well, as I pointed out this morning, there was a small station there. It was erected in 1942, I think it was, and delivered gas from that area to gasoline plant Number 2, and the station as it is presently constituted, was projected in 1943, possibly late in '42, or early '43, and was built and placed in operation in early November '43.

Q And was that Number 2 plant dismantled and consolidated with

Number 1?

A Number 2 plant has not been completely dismantled yet, but it was shut down the day Compressor Station Number 3 started up. In other words, early November 1943. And from that day on the equipment that was required from Number 2 to form the consolidated plant of Number 1 was started to be dismantled and moved up to Number 1.

(Go to page 3455).

Q Then if the #2, if it had not been decided to move or dismantle the #2 plant, would you have continued to operate the small station or compressor station which you had there ?

A So far as I can say, sir, there was only a three months' operation behind it at that time, two or three, so no study had been made of the results of that operation.

Q Really what I am coming at and I think we discussed this outside some months ago, if the #2 Absorption Plant had remained in operation and there had not been any consolidation would there have been any necessity for the line, the wet gas line, from #3 to the #1 plant ?

A Well no, except the small plant which was delivering to the #2, would not have been in existence because the gas was being delivered from that area in most cases under natural pressure to the gasoline plant #2; the operating pressure at that time being only 150 pounds as against 300 pounds at gasoline plant #1.

Q Then assuming, let us assume that today the #2 plant was in operation as it was before, there then would be no wet gas line from that area up to the #1 plant ?

A No, the wells -

Q And the residue, - could the residue gas from that area, from the area now served by the #3 station, have been then put into the main transmission line running between the B. A. plant and the scrubber at the #1 plant ?

A Not without installing compressors to do so.

Q All right.

A And increasing the size of the line an appropriate amount.

Q An equal amount of compression to what there is now at #3 ?

A Yes. Will you let me qualify that, it depends on the design

of the line, the line would have had to be increased to take care of it and it would have balanced off the compressors and the line.

Q Now assuming all those things to be so, what I am wondering is whether or not the consolidation of these two absorption plants has not resulted in an investment in the wet gas line that would have been avoided otherwise ?

A Well the investment in that wet gas line has not amounted to a very large amount because Gas Gathering Line #5 was used for the majority of the distance.

Q What sized lines?

A The Gas Gathering Line #5.

Q The one from #3 to #1 ?

A It starts out as a 10 inch line and joins to 6 inch lines about two to two and a half miles out from the plant.

Q My impression is that the investment in that line is heavy.

A I doubt whether you have ever seen the investment in it, I have not.

Q Perhaps I was told, and can you let us know what it is ?

A Oh yes, we can get it, a severance of the valuations.

Q Now you said something in answer to my learned friend Mr. Steer, and also in answer perhaps to someone else, about the number of wells required, what number of wells would be required if this were simply a dry gas field being operated for the purpose of furnishing fuel to Calgary, to Calgary and to the Calgary system and it was pointed out there would be a great number less wells that would be required than the number of wells which have been drilled in the area now ?

A Yes.

Q And you would of course have to drill sufficient wells to take

care of peak loads ?

A That is correct.

Q So during the time when those wells were not required to meet peak loads they could be shut in ?

A That is right.

Q And there never would arise the repressuring problem ?

A No.

Q Now in dealing with the life of this field and the quantity of gas that is going to be handled by Madison each year throughout, can we assume that the absorption plant, the Madison Absorption Plant, or the Royalite Absorption Plant, will remain in operation during the whole period ?

A Well I do not think I am in a position to answer that question, sir. I am not an official of Royalite.

Q THE CHAIRMAN: As an Engineer what would you think ?

A As to whether it would be a profitable operation, am I an Engineer ?

Q MR. BLANCHARD: That is what I was coming at.

A It will depend entirely or largely anyway on what products they get and what prices they get, naturally.

Q Yes. Well assuming for the moment that the price will remain as it is, can you tell me how much gas the Absorption Plant has to handle from day to day, daily, to make it a good business proposition to continue its operation ?

A As to that, Mr. Blanchard, I would need to go into that and I would have to have a break-down of figures to look over from Royalite to see everything, and the true cost of the gasoline plant segregated and I have not that break-down so I am not in a position as an Engineer to make a statement.

Q THE CHAIRMAN: Your opinion too of course would be

affected if there should develop a free market for natural gasoline ?

A Yes, that would, might have an effect upon it.

Q MR. BLANCHARD: You can see the importance of that question, at least what I figure is the importance of that question at this stage of the proceedings in view of the fact that the absorption plant is to defray a part of the operating cost of this gas system ?

A Yes.

Q All right. How long can we rely on it doing that, that is what I am trying to get at ?

A Well I am not in a position to answer that question, sir. I have not the information which is necessary to arrive at an opinion of that sort. When I was operating the gas and gasoline department,and that was in the days when it ran everything as a unit operation, I did not have statements of that nature in my possession.

Q DR. BOOMER: Have you any idea as to when the absorption plant cannot meet out of pocket operating costs ?

A On Gasoline Plant #1 I cannot tell you, sir, but on Gasoline Plant #2 I would certainly say that a load of something of the order of, I do not know what it would be actually, but I understood it was not meeting operating costs at the time they shut it down and I have not the information to show what the breakdown would be. I have not those available now but I understood it was not meeting its operating costs at that time.

Q It would be more today ?

A It would be more today, it was up to about 17 or 18 when they shut it down.

Q MR. BLANCHARD: Am I right in this, that an absorption

plant must be operating in order to take the gasoline content from the gas before it is used by the consumers in the city ?

A Yes, that is right.

Q So that if the Royalite does not find it worth while to operate, then the Madison will have to operate it as part of its operation in taking the gasoline content out ?

A Madison or somebody.

Q Yes, Madison or somebody ?

A Yes.

Q Well it is rather important for us to know, do you not think that ?

A Oh, I can see your point in what you are asking me but what I am telling you is that I am not in a position to give you an answer because I do not know.

Q Well is there any way of finding out ?

A Well there again it is Royalite that operates that gasoline plant and your question should be addressed to Royalite.

Q Is there any way that you, I mean to say can you as the previous Superintendent of this gasoline station, give us any information based on your knowledge, your knowledge of your operatinns of this station, as to how much gas must be handled daily at pre-war prices to break even, as Dr. Boomer suggests ?

A Not unless I was supplied with all that information which I mentioned a little earlier, Mr. Blanchard.

Q Where does that information have to be obtained from ?

A From the Royalite books and they did not keep the books broken down so then it has to be allocated to the appropriate expenses, to the different Departments.

Q It is only Royalite that can furnish that information ?

A Yes.

Q That is your answer ?

A Yes.

Q And until we have that information the Board has nothing whatever upon which to base its judgment as to whether that absorption plant may be closed next year, the year after, or the year after that, and the whole cost of operating will be laid on the Madison operation ?

A Are you asking me, is that a question ?

Q Yes.

A Well I do not know what the Board has got in the way of evidence on that.

Q Well take you, as Superintendent now of Madison, would that give you some concern if Madison was not a subsidiary of Royalite at all ?

A If I was the person responsible for seeing that continuity of operation of that plant was arranged it would naturally give me concern.

Q Great concern ?

A To see that anything like that had been arranged for.

MR. BLANCHARD: Yes. Now Mr. Chairman I will not finish today, I have a number of further questions.

THE CHAIRMAN: Perhaps we had better adjourn now.

(The Enquiry was here adjourned, to be resumed at 9.30 A.M. October 3rd, 1945)

A Yes.

Q What is your answer ?

A Yes.

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